CLAIMS

What is claimed is:

1. A method for managing more devices on a network than the maximum number of addresses comprising:

providing said maximum number of devices;

connecting said maximum number of devices to said network;

setting an individual address for each of said maximum number of devices;

providing at least one spare device, said at least one spare device being capable of determining and using addresses of failed devices on said network;

operating said network with said maximum number of devices;

determining that at least one of said maximum number of devices has failed;

removing said at least one of said maximum number of devices from said network whenever said at least one of said maximum number of devices has failed, said at least one of said maximum number of devices having a first address;

connecting said at least one spare device to said network;

determining said first address by said at least one spare device;

assuming said first address by said at least one spare device; and

operating said network with said at least one spare device in place of said at least one of said maximum number of devices.

2. The method of claim 1 wherein said step of setting an individual address for each of said maximum number of devices comprises assigning a predetermined address for at least one of said maximum number of devices.

3. The method of claim 1 further comprising:

connecting each of said first number of devices and said at least one spare device to a switch, said switch being adapted to switch said each of said first number of devices into and out of said network; and

connecting each of said switches to a controller adapted to control said switches.

4. The method of claim 3 wherein said step of determining that at least one of said maximum number of devices needs to be removed from said network is performed by said controller.

5. The method of claim 4 wherein said devices comprises a plurality of data storage devices.

6. The method of claim 5 wherein said devices are arranged as at least a portion of a RAID system.

7. A network having a maximum number of devices and at least one spare device comprising:

a network architecture having said maximum number of addresses corresponding to said maximum number of devices;

a plurality of devices attached to said network, the number of said plurality of devices corresponding to said maximum number of addresses;

at least one spare device adapted to determine an unallocated address that is not used by another device and using said unallocated address as the network address for said at least one spare device;

a plurality of switches attached to each of said plurality of devices and said at least one spare device and adapted to connect and disconnect said each of said plurality of devices and said at least one spare device to and from said network; and

a controller adapted to control each of said plurality of switches.

8. The network of claim 7 wherein said controller is further adapted to:

assess the status of each of said plurality of devices;

determine that one of said plurality of devices is improperly functioning;

cause a first of said plurality of switches to disconnect said one of said plurality of devices from said network; and

cause a second of said plurality of switches to connection said at least one spare device to said network.

9. The network of claim 8 wherein said controller is further adapted to reset said network.

10. The network of claim 8 wherein at least two of said plurality of devices is a storage device.

11. The network of claim 10 wherein said storage devices are arranged as a RAID system.

12. A network with automated spares comprising:

a device means for individually communicating on said network, said device means being greater than the number of addresses available on said network, at least one of said device means being a spare device means;

a switch means connected to each of said device means and adapted to connect or disconnect each of said first means to said network individually; and

a controller means for determining if at least one of said device means is to be removed from said network, causing said switch means to disconnect said at least one device means from said network and connecting said spare device means to said network.

13. The network of claim 12 wherein at least two of said plurality of first means is a storage device.

14. The network of claim 13 wherein a plurality of said first means are arranged as a RAID system.